

In the Claims:

1. (Currently Amended) A switch for use with a packet network, said switch comprising:
[[a]] an input for receiving first packets from at least one communication link, each of said first packets including a source address;
[[b]] a shuffling unit for processing said first packets, said shuffling unit operative to extract data from said first packets and generate second packets at least partly on a basis of the source address of said first packets, said shuffling unit releasing said second packets to the packet network; and
[[c]] a switching unit for receiving third packets from the packet network, said switching unit operative to perform switching of said third packets for establishing at least one communication session, said switching unit distinct from said shuffling unit.
2. (Currently Amended) [[A]] The switch as defined in claim 1, wherein each of said first, second and third packets includes a source address, a destination address and at least one data segment.
3. (Currently Amended) [[A]] The switch as defined in claim 2, wherein the packet network interconnects said switch with a plurality of remote switches, said third packets including second packets generated by the shuffling units of the plurality of remote switches.
4. (Currently Amended) [[A]] The switch as defined in claim 3, wherein said third packets include the second packets generated by the shuffling unit of said switch.
5. (Currently Amended) [[A]] The switch as defined in claim 4, wherein said shuffling unit includes a first data structure mapping each data segment of each of said first packets to a destination address, said shuffling unit operative to consult said first data structure for generating said second packets.
6. (Currently Amended) [[A]] The switch as defined in claim 5, wherein said shuffling unit generates a second packet for each destination address contained in said first data structure.

7. (Currently Amended) [[A]] The switch as defined in claim 6, wherein when said shuffling unit generates a second packet having a particular destination address, said shuffling unit uses all of the first packet data segments mapped to the particular destination address in said first data structure.
8. (Currently Amended) [[A]] The switch as defined in claim 7, wherein said switching unit includes a second data structure mapping each data segment of each of said third packets to at least one other data segment of said third packets, said switching unit operative to establish said at least one communication session on a basis of said second data structure.
9. (Currently Amended) [[A]] The switch as defined in claim 8, wherein, upon establishing [[a]] the communication session, said switching unit is operative to extract data from said third packets and generate fourth packets on a basis of said second data structure, said switching unit releasing said fourth packets to the packet network.
10. (Currently Amended) [[A]] The switch as defined in claim 9, wherein said shuffling unit receives fourth packets from the packet network, said shuffling unit being operative to extract data from said fourth packets and generate fifth packets, said shuffling unit transmitting said fifth packets to the at least one communication link.
11. (Currently Amended) [[A]] The switch as defined in claim 10, wherein said shuffling unit includes a third data structure mapping each data segment of each of said fourth packets to a destination address, said shuffling unit operative to consult said third data structure for generating said fifth packets.
12. (Currently Amended) [[A]] The switch as defined in claim 11, wherein said shuffling unit generates a fifth packet for each destination address contained in said third data structure.
13. (Currently Amended) [[A]] The switch as defined in claim 12, wherein said input is a first input, said switch including a second input for receiving control information, said first, second and third data structures being dynamically updated by said control information.

14. (Currently Amended) [[A]] The switch as defined in claim 12, wherein said first, second, third, fourth and fifth packets include data signals.

15. (Currently Amended) [[A]] The switch as defined in claim 12, wherein said first, second, third, fourth and fifth packets include voice signals.

16. (Currently Amended) [[A]] The switch as defined in claim 12, wherein said first, second, third, fourth and fifth packets include data and voice signals.

17. (Currently Amended) [[A]] The switch as defined in claim 1, wherein the communication session is a telephone call between two parties.

18. (Currently Amended) [[A]] The switch as defined in claim 1, wherein the communication session is a conference call between multiple parties.

19. (Currently Amended) [[A]] The switch as defined in claim 1, wherein the communication session is a page broadcast.

20. (Currently Amended) A switch comprising:

[[a]] a shuffling unit receiving first packets including a source address from at least one communication link, said shuffling unit operative to extract data from said first packets and generate second packets at least partly on a basis of the source address of said first packets, said shuffling unit transmitting each of said second packets to one of a first set of remote devices;

[[b]] a switching unit for receiving third packets from at least one of a second set of remote devices, said switching unit operative to perform switching of said third packets for establishing at least one communication session, wherein said shuffling unit is distinct from said switching unit.

21. (Currently Amended) [[A]] The switch as defined in claim 20, wherein said first set of remote devices includes said switching unit.

22. (Currently Amended) [[A]] The switch as defined in claim 21, wherein said second set of remote devices includes said shuffling unit.
23. (Currently Amended) [[A]] The switch as defined in claim 22, wherein said first set of remote devices includes the switching units of a set of remote switches.
24. (Currently Amended) [[A]] The switch as defined in claim 23, wherein said second set of remote devices includes the shuffling units of the set of remote switches.
25. (Currently Amended) [[A]] The switch as defined in claim 20, wherein said first, second and third packets include data signals.
26. (Currently Amended) [[A]] The switch as defined in claim 20, wherein said first, second and third packets include voice signals.
27. (Currently Amended) [[A]] The switch as defined in claim 20, wherein said first, second and third packets include data and voice signals.
28. (Currently Amended) [[A]] The switch as defined in claim 20, wherein the communication session is a telephone call between two parties.
29. (Currently Amended) [[A]] The switch as defined in claim 20, wherein the communication session is a conference call between multiple parties.
30. (Currently Amended) [[A]] The switch as defined in claim 20, wherein the communication session is a page broadcast.
31. (Currently Amended) A device for establishing communication sessions in a communications system including a packet network, said device comprising:

[[a]]] a shuffler for receiving first packets including a source address from at least one communication link, said shuffler operative to extract data from said first packets and generate second packets at least partly on a basis of the source address of said first packets, said shuffler releasing said second packets to the packet network; and

[[b]]] a switch for receiving third packets from the packet network, said switch operative to perform switching of said third packets for establishing at least one communication session, wherein said shuffler is distinct from said switch.

32. (Currently Amended) [[A]] The device as defined in claim 31, wherein each of said first, second and third packets includes a source address, a destination address and at least one data segment.

33. (Currently Amended) [[A]] The device as defined in claim 32, wherein the packet network interconnects said device with a plurality of remote devices, said third packets including second packets generated by the shufflers of the plurality of remote devices.

34. (Currently Amended) [[A]] The device as defined in claim 33, wherein said third packets include the second packets generated by the shuffler of said device.

35. (Currently Amended) [[A]] The device as defined in claim 34, wherein said shuffler includes a first data structure mapping each data segment of each of said first packets to a destination address, said shuffler operative to consult said first data structure for generating said second packets.

36. (Currently Amended) [[A]] The device as defined in claim 35, wherein said shuffler generates a second packet for each destination address contained in said first data structure.

37. (Currently Amended) [[A]] The device as defined in claim 36, wherein when said shuffler generates a second packet having a particular destination address, said shuffling unit uses all of the first packet data segments mapped to the particular destination address in said first data structure.

38. (Currently Amended) [[A]] The device as defined in claim 37, wherein said switch includes a second data structure mapping each data segment of each of said third packets to at least one other data segment of said third packets, said switch operative to establish said at least one communication session on a basis of said second data structure.

39. (Currently Amended) [[A]] The device as defined in claim 38, wherein, upon establishing [[a]] the at least one communication session, said switch is operative to extract data from said third packets and generate fourth packets on a basis of said second data structure, said switch releasing said fourth packets to the packet network.

40. (Currently Amended) [[A]] The device as defined in claim 39, wherein said shuffler receives fourth packets from the packet network, said shuffler being operative to extract data from said fourth packets and generate fifth packets, said shuffler transmitting said fifth packets to at least one communication link.

41. (Currently Amended) [[A]] The device as defined in claim 40, wherein said shuffler includes a third data structure mapping each data segment of each of said fourth packets to a destination address, said shuffler operative to consult said third data structure for generating said fifth packets.

42. (Currently Amended) [[A]] The device as defined in claim 41, wherein said shuffling unit generates a fifth packet for each destination address contained in said third data structure.

43. (Currently Amended) [[A]] The device as defined in claim 42, wherein said device includes an input for receiving control information, said first, second and third data structures being dynamically updated by said control information.

44. (Currently Amended) [[A]] The device as defined in claim 42, wherein said first, second, third, fourth and fifth packets include data signals.

45. (Currently Amended) [[A]] The device as defined in claim 42, wherein said first, second, third, fourth and fifth packets include voice signals.

46. (Currently Amended) [[A]] The device as defined in claim 42, wherein said first, second, third, fourth and fifth packets include data and voice signals.

47. (Currently Amended) [[A]] The device as defined in claim 31, wherein the communication session is a telephone call, between two parties.

48. (Currently Amended) [[A]] The device as defined in claim 31, wherein the communication session is a conference call between multiple parties.

49. (Currently Amended) [[A]] The device as defined in claim 31, wherein the communication session is a page broadcast.

50. (Currently Amended) A machine readable storage medium containing a program element for execution by a computing apparatus to implement a switch, said switch comprising:

[[a]]] an input for receiving first packets from at least one communication link, each of said first packets including a source address;

[[b]]] a shuffling unit for processing said first packets, said shuffling unit operative to extract data from said first packets and generate second packets at least partly on a basis of the source address of said first packets, said shuffling unit transmitting each of said second packets to one of a first set of remote devices; and

[[c]]] a switching unit for receiving third packets from at least one of a second set of remote devices, said switching unit operative to perform switching of said third packets for establishing at least one communication session, wherein said shuffling unit is distinct from said switching unit.

51. (Currently Amended) [[A]] The machine-readable storage medium as defined in claim 50, wherein said first set of remote devices includes said switching unit.

52. (Currently Amended) [[A]] The machine-readable storage medium as defined in claim 51, wherein said second set of remote devices includes said shuffling unit.

53. (Currently Amended) [[A]] The machine-readable storage medium as defined in claim 52, wherein said first set of remote devices includes the switching units of a set of remote switches.

54. (Currently Amended) [[A]] The machine-readable storage medium as defined in claim 53, wherein said second set of remote devices includes the shuffling units of the set of remote switches.

55. (Currently Amended) A method for establishing communication sessions in a communication system including a packet network, said method comprising:

[[a]] receiving first packets including a source address from at least one communication link;

[[b]] implementing a shuffling stage for:

[[i]] extracting data from the first packets;

[[ii]] shuffling the data extracted from the first packets for generating second packets at least partly on a basis of the source addresses of the first packets; and

[[iii]] releasing the second packets to the packet network; and

[[c]] implementing a switching unit distinct from said shuffling stage, said switching unit for:

[[i]] receiving third packets from the packet network; and

[[ii]] switching the third packets for establishing at least one communication session.

56. (Currently Amended) [[A]] The method as defined in claim 55, wherein each of said first, second and third packets includes a source address, a destination address and at least one data segment.

57. (Currently Amended) [[A]] The method as defined in claim 56, wherein said shuffling

unit includes a first data structure mapping each data segment of each of said first packets to a destination address, said shuffling unit operative to consult said first data structure for generating said second packets.

58. (Currently Amended) [[A]] The method as defined in claim 57, wherein said shuffling unit generates a second packet for each destination address contained in said first data structure.

59. (Currently Amended) [[A]] The method as defined in claim 58, wherein when said shuffling unit generates a second packet having a particular destination address, said shuffling unit uses all of the first packet data segments mapped to the particular destination address in said first data structure.

60. (Currently Amended) [[A]] The method as defined in claim 59, wherein said switching unit includes a second data structure mapping each data segment of each of said third packets to at least one other data segment of said third packets, said switching unit operative to establish said at least one communication session on a basis of said second data structure.

61. (Currently Amended) [[A]] The method as defined in claim 60, further comprising the step of dynamically updating said first and second data structures.

62. (Currently Amended) [[A]] The method as defined in claim 61, wherein said first, second and third packets include data signals.

63. (Currently Amended) [[A]] The method as defined in claim 61, wherein said first, second and third packets include voice signals.

64. (Currently Amended) [[A]] The method as defined in claim 61, wherein said first, second and third packets include data and voice signals.

65. (Currently Amended) [[A]] The method as defined in claim 55, wherein the communication session is a telephone call between two parties.

66. (Currently Amended) [[A]] The method as defined in claim 55, wherein the communication session is a conference call between multiple parties.

67. (Currently Amended) [[A]] The method as defined in claim 55, wherein the communication session is a page broadcast.

68. (Currently Amended) [[A]] The method as defined in claim 55, wherein the communication system is a data system.

69. (Currently Amended) [[A]] The method as defined in claim 55, wherein the communication system is a voice system.

70. (Currently Amended) [[A]] The method as defined in claim 55, wherein the communication system is a data and voice system.

71. (Currently Amended) In a communication system encompassing a plurality of switches, each switch having a shuffling unit and a switching unit:

[[a]]] the set of shuffling units being operative to:

 [[i]]] receive first packets including a source address from respective communication links;

 [[ii]]] extract data from the first packets for generating second packets at least partly on a basis of the source address of the first packets; and

 [[iii]]] transmit each of the second packets to one of the switching units of the plurality of switches; and

[[b]]] the set of switching units, the set of switching units distinct from the set of shuffling units, the set of switching units being operative to:

 [[i]]] receive third packets from at least one of the shuffling units of the plurality of switches; and

 [[ii]]] switch the third packets for establishing at least one communication session.

72. (Currently Amended) A communication system for establishing communication sessions, said communication system comprising:

[[a]] a packet network; and

[[b]] a plurality of switches, each of said switches including:

[[i]] a shuffling unit for receiving first packets including a source address from a respective communication link, said shuffling unit operative to extract data from said first packets and generate second packets at least partly on a basis of the source address of said first packets, said shuffling unit releasing said second packets to the packet network; and

[[ii]] a switching unit for receiving third packets from the packet network, said switching unit operative to perform switching of said third packets for establishing at least one communication session, wherein the switching unit is distinct from the shuffling unit.

73. (Currently Amended) [[A]] The communication system as defined in claim 72, wherein the switching units of said plurality of switches form a set of remote switching units and the shuffling units of said plurality of switches form a set of remote shuffling units.

74. (Currently Amended) [[A]] The communication system as defined in claim 73, wherein said shuffling unit transmits said second packets over the packet network to one of the set of remote switching units.

75. (Currently Amended) [[A]] The communication system as defined in claim 74, wherein said third packets are second packets sent over the packet network by at least one of the set of remote shuffling units.

76. (Currently Amended) A communication system for establishing communication sessions, said communication system comprising:

[[a]] a packet network;

[[b]] at least one shuffler, said shuffler receiving first packets including a source address from a respective communication link, said shuffler being operative to extract data from said first packets and generate second packets at least partly on a basis of the source address of said first packets, said shuffler transmitting said second packets to the packet network; and

[[c]]] at least one switch, said switch receiving third packets from the packet network and being operative to perform switching of said third packets for establishing the at least one communication session, wherein said at least one switch is distinct from said at least one shuffler.

77. (Currently Amended) [[A]] The communication system as defined in claim 76, wherein said communication system includes a plurality of shufflers and a plurality of switches, each shuffler transmitting said second packets over the packet network to one of said plurality of switches.

78. (Currently Amended) [[A]] The communication system as defined in claim 77, wherein said third packets are second packets sent over the packet network by at least one of said shufflers.

79. (Currently Amended) A switch for use with a packet network, said switch comprising:
[[a]]] input means for receiving first packets from at least one communication link, each of said first packets including a source address;
[[b]]] shuffling means for processing said first packets to extract data from said first packets and generate second packets at least partly on a basis of the source address of said first packets, said shuffling means releasing said second packets to the packet network; and
[[c]]] switching means for receiving third packets from the packet network, said switching means operative to perform switching of said third packets for establishing at least one communication session, wherein said shuffling means is distinct from said switching means.

80. (Currently Amended) A switch comprising:
[[a]]] shuffling means receiving first packets including a source address from at least one communication link, said shuffling means operative to extract data from said first packets and generate second packets at least partly on a basis of the source address of said first packets, said shuffling means transmitting each of said second packets to one of a first set of remote devices;
[[b]]] switching means for receiving third packets from at least one of a second set of remote devices, said switching means operative to perform switching of said third packets for

establishing at least one communication session, wherein said shuffling means is distinct from
said switching means.

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